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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/934,775	08/21/2001	Clifford Curry	1938-2	8595

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EXAMINER
COX, CASSANDRA F

ART UNIT	PAPER NUMBER
2816	

DATE MAILED: 10/01/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/934,775	CURRY ET AL.	
	Examiner	Art Unit	
	Cassandra Cox	2816	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 August 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *20 and 21* is/are allowed.

6)☒ Claim(s) *1,4,7,8,16 and 19* is/are rejected.

7)☒ Claim(s) *2-3,5-7,9-15,17-18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 August 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Objections

1. Claims 1, 3, and 14 are objected to because of the following informalities:

In line 2 of claim 1, insert the word --a-- before the word "set".

In line 3 of claim 3, insert the word --a-- before the word "set".

In line 2 of claim 14, delete the first occurrence of the word "the".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 7, 16 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Kuriyama et al. (U.S. Patent No. 5,097,338).

In reference to claim 1, Kuriyama discloses in Figure 8 a circuit comprising: an actual switch (SW1-SW64) coupled to receive an input signal sequence (which is seen as the outputs of gates A1-A64) that indicates a set of transitions associated with the actual switch (SW1-SW64); a dummy switch (DSW) coupled to receive a dummy signal (which is seen as the output of gate A0) that indicates a set of state transitions associated with the dummy switch (DSW), the dummy signal sequence indicating state transitions that are mutually exclusive of state transitions indicated by the input signal sequence (see column 7, lines 5-7). The same applies to claim 7.

In reference to claim 16, Kuriyama discloses in column 9, lines 18-58 that the circuit includes a method for reducing noise that comprises a step of maintaining a number of actual switch state transitions plus a number of dummy switch state transitions (which is seen to be performed by maintaining the timing of the control pulse CTRL).

In reference to claim 19, because the claimed structure is fully met by Kuriyama, the recited function or "result" limitations "wherein a total switching power corresponding to the number of actual switches plus the number of dummy switches remains essentially constant during device operation" will necessarily be inherent in Kuriyama, as held by the court in In re Best, 195 USPQ 430.

4. Claims 1, 7-8, 16 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Cooperman (U.S. Patent No. 5,204,982).

In reference to claim 1, Cooperman discloses in Figure 8 a circuit comprising: an actual switch (38) coupled to receive an input signal sequence that indicates a set of transitions associated with the actual switch (38); a dummy switch (81) coupled to receive a dummy signal (which is seen as the inverted version of the input signal sequence) that indicates a set of state transitions associated with the dummy switch (81), the dummy signal sequence indicating state transitions that are mutually exclusive of state transitions indicated by the input signal sequence (see column 2, lines 9-13). The same applies to claim 7.

In reference to claim 8 Cooperman discloses in column 2, lines 1-5 that the number of dummy switches equals the number of actual switches.

In reference to claim 16, Cooperman also discloses a method for reducing noise that comprises a step of maintaining a number of actual switch state transitions plus a number of dummy switch state transitions (see column 4, lines 43-47).

In reference to claim 19, because the claimed structure is fully met by Cooperman, the recited function or "result" limitations "wherein a total switching power corresponding to the number of actual switches plus the number of dummy switches remains essentially constant during device operation" will necessarily be inherent in Cooperman, as held by the court in In re Best, 195 USPQ 430.

> (e) the invention was described in-
> (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
> (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

5. Claims 1 and 4 are rejected under 35 U.S.C. 102(e) as being anticipated by Tamagawa (U.S. Patent No. 6,452,151).

In reference to claim 1, Tamagawa discloses in Figure 7 a circuit comprising: an actual switch (C1-Cn) coupled to receive an input signal sequence (O1-On) that indicates a set of transitions associated with the actual switch (C1-Cn); a dummy switch (C0) coupled to receive a dummy signal (104) that indicates a set of state transitions associated with the dummy switch (C0), the dummy signal sequence indicating state transitions that are mutually exclusive of state transitions indicated by the input signal sequence.

In reference to claim 4, Tamagawa discloses in Figure 7 that the circuit further comprises a first current source (I1) coupled to the actual switch (C1); and a second current source (I0) coupled to the dummy switch, wherein the second current source (I0) provides a different amount of current than the first current source (I1).

Allowable Subject Matter

6. Claims 20-21 are allowed.

7. Claims 2-3, 5-6, 9-15, and 17-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: Claims 2, 9 and 11 would be allowable because the closest prior art of record fails to disclose a circuit as shown in Figure 3 wherein the activation unit (210) has an input coupled to receive the input signal sequence (D_a, $/D_a$) and an output coupled to provide the dummy signal sequence (D_d, $/D_d$) in combination with the rest of the limitations of the base claims and any intervening claims. Claims 3, 10, and 12 would be allowable because the closest prior art of record fails to disclose a circuit as shown in Figure 3 wherein the activation unit (210) is coupled to receive a next state (S, /S) of the actual switch, a present state (D_a, $/D_a$) of the actual switch, and a present state (D_d, $/D_d$) of the dummy switch, and is coupled to provide the dummy signal (D_d, $/D_d$) to the dummy switch in combination with the rest of the limitations of the base claims and any intervening claims. Claims 13 and 17 would be allowable because the closest prior art of record fails to disclose a circuit as shown in Figure 2 wherein a first current source

(180) is coupled to an actual switch within the plurality of actual switches; and a second current source (190) is coupled to a dummy switch within the plurality of dummy switches in combination with the rest of the limitations of the base claims and any intervening claims. Claims 5, 14, and 18 would be allowable because the closest prior art of record fails to disclose a circuit as shown in Figure 2 wherein the second current source (190) provides less current than the first current source (180) in combination with the rest of the limitations of the base claims and any intervening claims. Claims 6 and 15 would be allowable because the closest prior art of record fails to disclose a circuit as shown in Figure 4 wherein the actual switch and the dummy switch form a portion (200) of a Digital to Analog converter (300) in combination with the rest of the limitations of the base claims and any intervening claims.

9. The following is an examiner's statement of reasons for allowance: Claims 20 and 21 are allowed because the closest prior art of record fails to disclose a method as disclosed in the specification page 3, lines 7-15 wherein the method comprises the steps of determining whether an actual switch will change state during a next switching cycle; and changing a state of a dummy switch during the next switching cycle in the event that the state of the actual switch will remain unchanged during the next switching cycle in combination with the rest of the limitations of the base claim and any intervening claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cassandra Cox whose telephone number is 703-306-5735. The examiner can normally be reached on Monday-Thursday from 7:00 AM to 4:30 PM and on alternate Fridays from 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on (703)-308-4876. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

CC
CC
September 27, 2002

Kenneth B. Wells
Primary Examiner